

REMARKS

Claims 1-5, 7-16, and 18-31 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,919,084 to Maurice ("Maurice '084") in view of U.S. Patent No. 4,120,638 to Straitz, IE ("Straitz '638"). The Examiner states that Maurice '084 discloses in Figures 1-9 an invention in the same field of endeavor as applicant's invention and similar to that described in applicant's claims 1-5, 7-16, and 18-31. In particular, Maurice '084 shows a brooder (100) with reflector (132), ceramic heating element (110), burner (116), and pilot light/burner assembly (see Fig. 1) as described. This pilot light assembly including a perforated housing (22) with deflector cap (48) that directs flames to a thermocouple assembly with thermocouple (24) as described (note particularly Figs. 1, 2, and 8).

The Examiner admits that Maurice '084 does not disclose a windshield that provides a protected zone against high velocity air for the pilot light assembly wherein the windshield is formed as a partially perforated chamber with a surrounding sidewall. (The Examiner has elected not to include the further limitation that the chamber has "an open top and an open bottom").

The Examiner cites Straitz '638, stating that Straitz '638 teaches a burner system with a pilot burner assembly that is considered analogous art to both applicant's invention and Maurice. In Straitz '638, the burner system includes a pilot burner assembly (15) with igniter (15) and thermocouple (80) that is generally constructed in the manner, and functions for the same purpose as, these structures shown in Maurice '084 (e.g. Fig. 2 of Maurice '084). The pilot burner assembly of Straitz '638 includes a slotted/perforated windshield (14) that is shown having a section that is partially perforated (any of the slots illustrated) and a section that is solid (any of the solid horizontal or vertical pieces of the shield 14) (see Fig. 1, and col. 2, lines 23-33). Therefore, in regard to claims 1-5, 7-16, and 18-31, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the pilot burner assembly of Maurice '084 to

incorporate the wind shield of Straitz '638 as this wind shield desirably reduces the wind effect on the flame produced by the pilot burner assembly (see Straitz).

Applicant claims in independent claims 1 and 20 “a windshield, wherein said windshield is a partially perforated chamber having an open top and an open bottom, and at least one surrounding side wall, wherein the at least one surrounding side wall has a section that is partially perforated and a section that is solid”. In contrast, Straitz '638 teaches in col.2, lines 23-33 the following:

“The flare stack 10 is shown also merely by way of illustration as being provided at the discharge end with a hollow cylindrical slotted wind shield 14 closed at the bottom to reduce the wind effect at the end of the stack 10. Disposed within the wind shield 14 is a pilot 15 to which a gas-air mixture is provided supplied by a pilot gas pipe 16 and through a venturi 17 where air is admixed for burning of gas at the pilot 15. The pilot 15 also has an ignitor pipe 18 connected thereto for the delivery of flame to the pilot for igniting the gas at the pilot 15.”

Applicant's windshield, in contrast to Straitz '638, is not closed at the bottom, and it is explicitly claimed and described in the specification to have an open bottom. In Fig 1 of Straitz '638, the bottom is shown as closed. The dictionary definition of “slotted” is “A narrow opening; a groove or slit”, while the definition of “perforated” is “Pierced with one or more holes”. Straitz '638 does not teach a perforated wind shield. The Examiner has incorrectly applied his own definition of “slotted” as being synonymous to “perforated”. The Examiner asserts that Straitz '638 teaches a burner system with a pilot burner assembly that is considered analogous art to both Applicant's invention and Maurice. It should be noted that neither Maurice nor Applicant's burner system employ a flare stack, which has a pre-mixed blend of combustion gases and air, as taught by Straitz '638 (col. 2, lines 34 – 52). Applicant teaches in the specification, beginning on page 3, line 31, that “Both ends of the windshield are open, enabling air to flow vertically with less shielding, while effectively deflecting crosswinds. The combination of the vented pilot housing with the flame deflector cap, restrictor plate, and the windshield produce a synergistic effect, enabling the poultry brooder heater to have superior

tolerance to variations in air flow, and ease of cleaning. Furthermore, the apparatus enables the use of a pilot light having small jet orifice, which reduces gas consumption by the pilot light. The invented assembly enables the pilot light to reliably remain lit in air flows of 7 – 9 mph, and the thermocouple stays sufficiently warm that it does not generate a false signal that the pilot light is extinguished, therein causing the gas to the brooder to be shut off.” Straitz '638 apparatus does not need additional air to burn the combustion gases, because the air is provided up-stream. The burner assemblies are not analogous, Reiterating Straitz '638 uses a pre-mixed blend of gases, and the Applicant's assembly use air obtained at the burner. The differences in burner assemblies are manifest in the selection by Straitz'638 to select a windshield with a bottom (which as explained blocks air to the stack). The selection of a slotted windshield, instead of a perforated shield, may be related to the fact that in contrast to Applicant's invention, which is particularly relevant to radiant heaters, Straitz '638 invention is a flare. Whatever the reason, the windshields have different elements. The Examiner has stated that Straitz '638 teaches that the windshield encompasses the thermocouple. The Examiner is in error. What Straitz '638 actually teaches, col. 3 lines 35-36 is “A thermocouple 80 is provided contiguous to the pilot 15 which is connected by a conductor 81 to a temperature operated switch 82 having a plurality of positions. In Fig. 1, the thermocouple is shown continuous with the pilot, but below the bottom of the windshield 14. Recall, that the thermocouple is conspicuously absent from the list of elements protected by the windshield, see Straitz '638 col. 2, lines 23-33. In view of these arguments, the 103(a) rejection of claims 1 and 20 is respectfully overcome, and claims 1 and 20 should be allowed. Furthermore, by extension, their dependent claims should be allowed, as they have all the limitations of the parent claim.

Claims 6 and 17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Maurice '084 in view of Straitz '638 as applied to the claims above, and further in view of U.S. Patent No. 5,964,214 to Ferlin et al. ("Ferlin"). Maurice '084 and Straitz '638 teach all the limitations of claims 6 and 17 except possibly for a radiant element that is in the form of a perforated stainless steel chamber. However, the use of a stainless steel

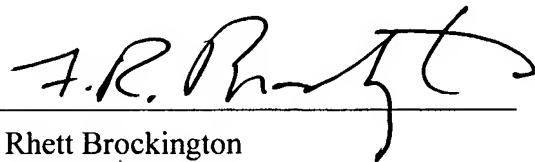
perforated chamber as a radiant element for a poultry is known in the art. Ferlin is cited to show such an arrangement wherein a poultry brooder includes a perforated stainless steel chamber (18 and perforations 44) that functions as the radiant element for providing heat, which is reflected downwardly by a canopy (29) to heat a lower area (see at least col. 2, line 62 through col. 3, line 17). Therefore, in regard to claims 6 and 17, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the radiant element of Maurice '084 to incorporate the steel chamber of Ferlin as such a chamber is a well known light weight, low cost heating device in poultry brooders that desirably functions to generate heat for reflection by a reflecting device to a lower area (see col, 2, lines 3-11) in the same manner as the ceramic radiant element of Maurice '084.

Applicant's claims 6 and 17 are dependent claims, depending from claim 1, and have all the limitations of the parent claim. In view of the above arguments for claims 1, the dependent claims should be allowed. The 103(a) rejection is overcome in that each element is not met by the cited art, and therefore the claims are not *prima facie* obvious.

Conclusion

Applicants would like to thank Examiner for the attention and consideration accorded the present Application. Should Examiner determine that any further action is necessary to place the Application in condition for allowance, Examiner is encouraged to contact undersigned Representative at the telephone number, facsimile number, address, or email address provided below. It is not believed that any fees for additional claims, extensions of time, or the like are required beyond those that may otherwise be indicated in the documents accompanying this paper. However, if such additional fees are required, Examiner is encouraged to notify undersigned Representative at Examiner's earliest convenience.

Respectfully submitted,



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